

This file has been updated on 9/18/00 to reflect the new cognizant Program Officer, Dr. Rodney Cocking (page 12).

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This file has been updated on 2/4/00 to reflect a corrected telephone number for the cognizant Program Officer, Dr. Diane Scott-Jones (page 12). The correct phone number is: 703-306-1732

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This file has been updated on 2/4/00 to reflect the substitution of a new Fastlane point of contact for Carolyn Miller (page 13). The new contact is:

Philip Johnson  
bcsfl@nsf.gov  
voice (703) 306-1740

# CHILD LEARNING AND DEVELOPMENT

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## A Multidisciplinary Competition

SOCIAL, BEHAVIORAL, AND ECONOMIC SCIENCES  
DIRECTORATE

***DEADLINE: JANUARY 15 AND JULY 15, YEARLY***



NATIONAL SCIENCE FOUNDATION

## INTRODUCTION

America's success in the next century requires that our children grow up to take productive roles as workers and as citizens. Key elements of this success are children's and adolescents' learning in formal and informal settings and the cognitive, social, and biological development that undergirds learning. Learning begins early in a child's life, long before school entry, and is a lifelong process. Children's and adolescents' learning in the twenty-first century must be focused not just on the acquisition of a body of knowledge or a set of skills that may become dated or obsolete but on flexibility in acquiring new knowledge and skills, on the transfer of knowledge and skills from one situation to another, and on creativity in problem-solving.

The current picture of children's learning is mixed. For example, American children's reading and science test scores are improving but still fall short of the test performance of children in other industrialized countries. Recent reports<sup>1</sup> clearly document our accomplishments and our remaining challenges. Among these challenges are significant gaps in basic research on children's learning and development in the context of extraordinary demographic and technological change. A solid body of research on children's learning and development, including studies of early learning and studies extending through the adolescent years, is necessary for improvements in children's future prospects. Further, basic research needs to be more closely linked with educational policy and practice. The research-to-practice link should be reciprocal rather than unidirectional. Not only should research findings be communicated to practitioners but also information from practical settings should be used to refine theories and research on children's learning and development.

## DESCRIPTION OF COMPETITION

Because of the urgent need for additional basic research, the Social, Behavioral, and Economic Sciences Directorate of the National Science Foundation (NSF) is now prepared to accept proposals for research on Child Learning and Development. This competition aims to attract research proposals based on a broad definition of learning and on the integration of cognitive, social, and biological processes of development.

The central objective of the Child Learning and Development competition will be to encourage and support research that:

- Increases our understanding of the cognitive, social, and biological (e.g., neural, hormonal) processes related to children and adolescents' learning in formal and informal settings<sup>2</sup>. This research will focus on **mechanisms of**

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<sup>1</sup> The National Science and Technology Council's 1997 "Investing in our Future: A National Research Initiative for America's Children in the 21st Century"; the President's Committee of Advisors on Science and Technology's 1997 "Report to the President on the Use of Technology to Strengthen K - 12 Education in the U.S."

<sup>2</sup> Studies are limited to humans; studies of nonhuman species will not be considered.

**development** that explain when and how children and adolescents are prepared to acquire new skills and knowledge.

In addition, priority will be given to studies addressing one or more of the following:

- Multidisciplinary, multi-method, microgenetic, and longitudinal approaches to the study of learning and development during childhood and adolescence.
- Development of new methods, models, and theories for studying learning and development.
- Relations between the development of specific and general forms of knowledge; age-related changes in the processes of transfer of knowledge in one domain to children's understanding of another domain.
- Relations of children and adolescents' learning to peer relationships, family interactions, social identities, and motivation.
- Impact of family, school, and community resources on the learning and development of children and adolescents.
- Relations of adolescents' learning and development to their preparation for entry into the workforce.
- The role of demographic and cultural characteristics – e.g., children's socioeconomic status, ethnicity, immigrant status, gender – in children's learning and development.

As indicated in the above listing of priorities, basic research may be funded on a wide range of topics; however, studies must be clearly linked to the central objective.

## **ELIGIBILITY**

Proposals submitted in response to this solicitation will be accepted from colleges, universities, and other not-for-profit institutions in the U.S. with research and education programs in any area normally supported by NSF.

## AWARD INFORMATION

Awards will be made for workshops, conferences and research proposals. Award durations of one to five years will be considered. A minimum of \$2 million will be available for new awards in Fiscal Year 1999, subject to the availability of funds. Approximately 15-20 grants will be awarded.

## PROPOSAL PREPARATION & SUBMISSION INSTRUCTIONS

### A. Proposal Preparation Instructions

Proposals submitted in response to this program announcement should be prepared and submitted in accordance with the general guidelines contained in the *Grant Proposal Guide* (GPG). The complete text of the GPG (including electronic forms) is available electronically on the NSF Web site at: <<http://www.nsf.gov/>>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone 301.947.2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

Proposers are reminded to identify the program announcement number (nsf99-42) in the program announcement/solicitation block on the NSF Form 1207, "*Cover Sheet for Proposal to the National Science Foundation*." Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

### B: Proposal Due Dates

For paper submission of proposals, the paper copies of the proposal **MUST** be received by 5:00 PM, ET, July 15 or January 15. Copies of the proposal must be made and submitted to NSF according to the normal procedures for paper proposals identified in the GPG.

For electronic submission of proposals, the proposal **MUST** be submitted by 5:00 PM, local time, July 15 or January 15. Copies of the signed proposal cover sheet must be submitted in accordance with the instructions identified below.

*Submission of Signed Cover Sheets.* For proposals submitted electronically via the NSF FastLane Project, the signed proposal Cover Sheet (NSF Form 1207) should be forwarded to the following address:

National Science Foundation  
DIS-FastLane Cover Sheet  
4201 Wilson Blvd.  
Arlington, VA 22230

A proposal may not be processed until the complete proposal (including signed Cover Sheet) has been received by NSF.

### **C. FastLane Requirements.**

The NSF FastLane system is available for electronic preparation and submission of a proposal through the Web at the FastLane Web site at <<http://www.fastlane.nsf.gov>>. The Sponsored Research Office (SRO or equivalent) must provide a FastLane Personal Identification Number (PIN) to each Principal Investigator (PI) to gain access to the FastLane "Proposal Preparation" application. PIs that have not submitted a proposal to NSF in the past must contact their SRO to be added to the NSF PI database. This should be done as soon as the decision to prepare a proposal is made.

In order to use NSF FastLane to prepare and submit a proposal, the following are required:

Browser (must support multiple buttons and file upload)

- Netscape 3.0 or greater
- Microsoft Internet Explorer 4.0 or greater

PDF Reader (needed to view/print forms)

- Adobe Reader 3.0 or greater

PDF Generator (needed to create project description)

- Adobe Acrobat 3.01 or greater
- Aladdin Ghostscript 5.10 or greater

A list of registered institutions and the FastLane registration form are located on the FastLane Web page.

For paper submission of proposals, the delivery address **must clearly identify the NSF announcement or solicitation number** under which the proposal is being submitted. Electronic submission will be required, beginning October 1, 2000.

### **PROPOSAL REVIEW INFORMATION**

#### **A. Merit Review Criteria.**

Review of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program officers charged with the oversight of the review process. NSF invites the proposer to suggest at the time of submission, the names of appropriate or inappropriate reviewers. Special care is taken to ensure that reviewers have no immediate and obvious conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority serving institutions, adjacent disciplines to that principally addressed in the proposal, etc.

Proposals will be reviewed against the following general merit review criteria established by the National Science Board. Following each criterion are potential

considerations that the reviewer may employ in the evaluation. These are suggestions and not all will apply to any given proposal. Each reviewer will be asked to address only those that are relevant to the proposal and for which he/she is qualified to make judgments.

### **What is the intellectual merit of the proposed activity?**

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

### **What are the broader impacts of the proposed activity?**

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

### **Integration of Research and Education**

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learner perspectives. PIs should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

### **Integrating Diversity into NSF Program, Projects, and Activities**

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports. PIs should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

## **B. Merit Review Process and Associated Customer Service Standard.**

Most the proposals submitted to NSF are reviewed by mail review, panel review, or some combination of mail and panel review. Proposals submitted in response to this announcement will be evaluated by ad hoc mail review and panel review in accordance with established NSF procedures.

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Reviewers will be asked to formulate a recommendation to either support or decline each proposal. A program officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation. In most cases, proposers will be contacted by the program officer after his or her recommendation to award or decline funding has been approved by his or her supervisor, the division director. This informal notification is not a guarantee of an eventual award. NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals in this category. In those cases where a proposal is being considered for joint funding by separate divisions, directorates, or agencies, NSF will be able to notify applicants within nine months in 95 percent of proposals. The time interval begins on the proposal deadline or target date or from the date of receipt, if deadlines or target dates are not used by the program. The interval ends when the division director accepts the program officer's recommendation.

In all cases, after final programmatic approval has been obtained, the recommendation then goes to the Division of Grants and Agreements for review of business, financial and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with an NSF program officer. A principal investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants Officer does so at its own risk.

## *Award Administration Information*

### **A. Notification of the Award.**

Notification of the award is made **to the submitting organization** by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator.

### **B. Grant Award Conditions.**

An NSF grant consists of: (1) the award letter, which includes any special provisions applicable to the grant and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable grant conditions, such as Grant General Conditions (NSF GC-1)\* or Federal Demonstration Partnership Phase III (FDP) Terms and Conditions\* and (5) any NSF brochure, program guide, announcement or other NSF issuance that may be incorporated by reference in the award letter. Electronic mail notification is the preferred way to transmit NSF grants to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

\* These documents may be accessed electronically on NSF's Web site at: <<http://www.nsf.gov/>>. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone 301.947.2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

### **C. Reporting Requirements.**

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

Within 90 days after expiration of a grant, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

NSF has implemented a new electronic project reporting system, available through FastLane, which permits electronic submission and updating of project reports, including information on: project participants (individual and organizational); activities and findings; publications; and, other specific products and contributions. Reports will continue to be required annually and after the expiration of the grant, but PIs will not need to re-enter information previously



provided, either with the proposal or in earlier updates using the electronic system.

Effective October 1, 1998, PIs are required to submit reports electronically via FastLane.

**D. New Awardee Information.**

If the submitting organization has never received an NSF award, it is recommended that the organization's appropriate administrative officials become familiar with the policies and procedures in the NSF *Grant Policy Manual* which are applicable to most NSF awards. The "Prospective New Awardee Guide" (NSF 97-100) includes information on: Administration and Management Information; Accounting System Requirements and Auditing Information; and Payments to Organizations with Awards. This information will assist an organization in preparing documents that NSF requires to conduct administrative and financial reviews of an organization. The guide also serves as a means of highlighting the accountability requirements associated with Federal awards. This document is available electronically on NSF's Web site at: <http://www.nsf.gov/cgi-bin/getpub?nsf97100>.

**CONTACTS FOR ADDITIONAL INFORMATION**

For further information on any aspect of preparation or submission of proposals in response to this solicitation, please contact:

Dr. Rodney Cocking  
Program Director, Child Learning and Development  
Division of Behavioral and Cognitive Sciences  
4201 Wilson Blvd., Room 995  
National Science Foundation  
Arlington, VA 22230  
Voice: 703 292-7305  
Fax: 703 292-9068  
Email: [rcocking@nsf.gov](mailto:rcocking@nsf.gov)

## **OTHER PROGRAMS OF INTEREST**

The NSF Guide to Programs is a compilation of funding opportunities for research and education in science, mathematics, and engineering. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter. Beginning in fiscal year 1999, the NSF Guide to Programs only will be available electronically. Many NSF programs offer announcements concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices listed in Appendix A of the GPG.

Any changes in NSF's fiscal year programs occurring after press time for the Guide to Programs will be announced in the NSF Bulletin, available electronically on the NSF Web site at: <<http://www.nsf.gov/>>. The direct URL for recent issues of the Bulletin is <<http://www.nsf.gov/od/lpa/news/publicat/bulletin/bulletin.htm>>. Subscribers can also sign up for NSF's Custom News Service to find out what funding opportunities are available.

## **ABOUT THE NATIONAL SCIENCE FOUNDATION**

NSF funds research and education in most fields of science and engineering. Grantees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

NSF welcomes proposals on behalf of all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities and persons with disabilities to participate fully in its programs. In accordance with Federal statutes, regulations and NSF policies, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NSF (some programs may have special requirements that limit eligibility).

*Facilitation Awards for Scientists and Engineers with Disabilities* provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. (For more information, see Section V.G.)

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 306-0090, FIRS at 1-800-877-8339.

## **PRIVACY ACT AND PUBLIC BURDEN STATEMENTS**

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 *Federal Register* 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 *Federal Register* 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne Plimpton  
Acting Reports Clearance Officer  
Information Dissemination Branch  
Division of Administrative Services  
National Science Foundation  
Arlington, VA 22230

# Matrix of Program Requirements

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## GENERAL INFORMATION

**Program Name:** Child Learning and Development

**Short Description/Synopsis of Program:**

This initiative aims to support studies that increase our understanding of cognitive, social, and biological processes related to children and adolescents' learning in formal and informal settings. Additional priorities are to support research on learning and development that: incorporates multidisciplinary, multi-method, microgenetic, and longitudinal approaches; develops new methods and theories; examines transfer of knowledge from one domain to another; assesses peer relations, family interactions, social identities, and motivation; examines the impact of family, school, and community resources; assesses adolescents' preparation for entry into the workforce; and investigates the role of demographic and cultural characteristics in children's learning and development. The results of this initiative will add to our basic knowledge of children's learning and development and, ultimately, will lead to better educated children and adolescents who grow up to take productive roles as workers and as citizens.

**Cognizant Program Officer:** Dr. Rodney Cocking, Program Officer, Room 995, Division of Behavioral and Cognitive Sciences, telephone 703 292-7305, e-mail: rcocking@nsf.gov.

**Applicable Catalog of Federal Domestic Assistance (CFDA) No.:** 47.075

## ELIGIBILITY

- ♦ Limitation on the categories of organizations that are eligible to submit proposals:

**Proposals may be submitted from colleges, universities, and other not-for-profit institutions in the U.S. with research and education programs in any area normally supported by NSF.**

- ♦ PI eligibility limitations: **None**

- ♦ Limitation on the number of proposals that may be submitted by an organization:

**A Principal Investigator may submit only one proposal and he/she may only collaborate in one other proposal as a co-Investigator.**

## AWARD INFORMATION

- ♦ Type of award anticipated: **Research Grants, Workshops, Conferences**
- ♦ Number of awards anticipated in FY 99: **15-20 awards**
- ♦ Amount of funds available: **Approximately \$2 million will be available for this initiative in FY 1999**
- ♦ Anticipated date of award: **August 1999**

## PROPOSAL PREPARATION & SUBMISSION INSTRUCTIONS

### ♦ Proposal Preparation Instructions

- Letter of Intent requirements: **None**
- Preproposal requirements: **None**
- Proposal preparation instructions: **Standard NSF Grant Proposal Guide instructions**
- Supplemental proposal preparation instructions: **None**
- Deviations from standard (GPG) proposal preparation instructions: **None**

### ♦ Budgetary Information

- Cost sharing/matching requirements:
- **Cost sharing at the minimum of 1% is required for all proposals submitted in response to this announcement. The minimum 1% cost sharing requirement need NOT be entered on line M on the proposal budget (NSF Form 1030).**
- Indirect cost (F&A) limitations: **None**
- Other budgetary limitations: **None**

### ♦ FastLane Requirements

- FastLane proposal preparation requirements: **FastLane use optional**
- FastLane point of contact: **BCS Fastlane Representative, telephone: 703. 292-8740, e-mail: [bcsl@nsf.gov](mailto:bcsl@nsf.gov)**

### ♦ Deadline/Target Dates

- Full Proposal Deadline **5:00 PM, ET, March 15, 1999**

## PROPOSAL REVIEW INFORMATION

- ♦ Merit Review Criteria: **Standard National Science Board approved criteria**

## AWARD ADMINISTRATION INFORMATION

- ♦ Grant Award Conditions
- ♦ Special grant conditions anticipated: **None anticipated**
- ♦ Special reporting requirements anticipated: **None**